



QUARTERLY GROUNDWATER MONITORING REPORT (JANUARY 2004)

**HAWLEY AUTO BODY AND PAINT
2902 LYTTON STREET
SAN DIEGO, CA 92110**

**UNAUTHORIZED RELEASE
FILE No. H12948-002**

**PREPARED BY:
D-MAX ENGINEERING, INC.
8380 MIRAMAR MALL, SUITE 227
SAN DIEGO, CA 92121
TEL: (858) 455-9988
FAX: (858) 455-9978**

January 23, 2004
Project No. 200329H-1

Dr. Nasser Sionit
Site Assessment and Mitigation Program
County of San Diego
Department of Environmental Health Services
1255 Imperial Avenue, 3rd Floor
P.O. Box 129261
San Diego, CA 92112-9261

**Re: Quarterly Groundwater Monitoring Report
Hawley Auto Body and Paint
Unauthorized Release File No. H12948-002
2902 Lytton Street
San Diego, CA 92110**

Dear Dr. Sionit:

On behalf of our client, Hawley Auto Body and Paint, D-MAX Engineering, Inc. (D-MAX) is pleased to submit the attached Quarterly Groundwater Monitoring Report. Presented in this report are the results of the fifth quarter of groundwater monitoring conducted on January 8 and 9, 2004, in accordance with the County of San Diego's letter to proceed with continued groundwater sampling dated July 21, 2003 and the workplan dated November 20, 2002.

Should you have any questions regarding this report, please do not hesitate to contact me at (858) 455-9988 Ext.22.

Sincerely,
D-MAX Engineering, Inc.

Arsalan Dadkhah, Ph.D., P.E.
Project Manager

cc: Mr. Don Hawley, Hawley Auto Body and Paint

TABLE OF CONTENTS

SECTION	PAGE
SITE DESCRIPTION	1
MONITORING WELL PURGING AND SAMPLING	1
GROUNDWATER SAMPLE ANALYSIS	2
ANALYTICAL RESULTS	3
DISCUSSION	4
RECOMMENDATIONS	4

TABLES

1 - Monitoring Wells and Groundwater Elevations January 2004	5
2 - Quarterly Groundwater Sample Analytical Results	6
3 - Summary of Groundwater Sample Analytical Results, Years 2000, 2001, 2002, and 2003, and 2004.	7

FIGURES

- 1 - Monitoring Well Locations
- 2 - Groundwater Gradient Map

ATTACHMENTS

- A - Groundwater Sampling Data Sheets
- B - Laboratory Analytical Reports

SITE DESCRIPTION

Hawley Auto Body and Paint is located at 2902 Lytton Street, San Diego, California, approximately 200 feet southeast of Rosecrans Street (Figure 1). The project site is bordered on the south side by Lytton Street and on the west side by an AM/PM mini-mart and Loma Carwash. To the east of the project site is a motorcycle shop, and to the north of the site are apartments and single-family residential properties. A review of the 1975 United States Geological Survey (USGS) 7.5 Minute Quadrangle, Point Loma, California topographic map indicates that the site lies at an elevation of approximately 40 feet above mean sea level (MSL).

Currently, there are nine groundwater monitoring wells at the subject property. Based on the workplan submitted on November 20, 2002, nine monitoring wells designated for sampling on a quarterly basis for a period of one year upon completion of quarterly monitoring for a period of one year, the county concurred on July 21, 2003 that additional quarterly sampling should be conducted.

The monitoring wells have been sampled historically under a separate workplan between February 2000 and February 2002; however, the County requested an additional year of quarterly monitoring. To date, quarterly monitoring was completed in December 2002, March 2003, June 2003 and August 2003. This report presents the fifth quarter sampling results from the January 2004 quarterly sampling event.

MONITORING WELL PURGING AND SAMPLING

On January 8 and 9, 2004, D-Max Engineering, Inc. (D-Max). conducted the fifth round of groundwater sampling at Hawley Auto Body and Paint. Monitoring wells MW-1 through MW-9 were purged, and groundwater samples were collected and submitted to an analytical laboratory.

The purging commenced with measuring the depth to groundwater at each well. The depth to groundwater ranged from 21.15 feet below ground surface (bgs) at monitoring well MW-9 to 28.65 feet bgs at monitoring well MW-1. Table 1 presents the elevations of the monitoring wells and groundwater elevations. The results of the groundwater elevation were used to develop a groundwater contour map shown in Figure 2. The groundwater

flow direction was calculated to the east with an approximate average gradient of 0.0016 feet/ feet.

The borehole volume for each well was calculated by using the protocol outlined in Section 5 of the 2002 Site Assessment and Mitigation (SAM) Manual. Once the recharge characteristics of the wells were determined, we were able to start the well purging process. An electric water pump was used to discharge groundwater from each of the monitoring wells. The discharged groundwater was placed into 55-gallon drums staged at the subject property until it could be disposed of at a later time.

Groundwater purging from each monitoring well took place in several steps. Initially, one borehole volume of water was removed using the water pump. Once the borehole volume was removed, a groundwater sample was collected and measured for pH, temperature, and electrical conductance. Simultaneously we measured the depth to groundwater. During the second step, one-half borehole volume of water was removed and the same groundwater quality parameters were measured. Another one-half borehole volume of groundwater was purged if the difference in pH or conductivity was greater than 10 percent of the first measurement. This process was repeated until the measured change in pH or conductivity were less than 10 percent of the previous measurements. The field datasheets are included in Appendix A.

Groundwater samples were collected using disposable bailers from each monitoring well once the groundwater parameters were stabilized within 10 percent of the previous measurement and the monitoring well had recovered 80 percent of the initial depth to groundwater. Once the bailer was filled with water, it was lifted out of the monitoring well and poured into four 40-milliliter (ml) glass vials and one 125 ml amber bottle. The bottles were labeled, stored in a sealed cooler, and submitted to EnviroMatrix Analytical Laboratory within the recommended holding times.

GROUNDWATER SAMPLE ANALYSIS

Nine sets of groundwater samples (one set for each monitoring well) were collected. No free product was observed at any of the monitoring wells. Most of the groundwater collected was clear in clarity; however, gray color and some silt and black particulates were observed in groundwater collected from monitoring wells MW-2, MW-5, and MW-6. A

hydrocarbon odor was detected at monitoring wells MW-2, MW-3, MW-5, MW-6, MW-7, and MW-8.

Samples were analyzed for total petroleum hydrocarbons (TPH) at full carbon range in general accordance with Modified EPA Method 8015, as well as for benzene, toluene, ethylbenzene, and total xylene (BTEX), T-butyl alcohol (TBA), Di-isopropyl ether (DIPE), ethyl T-butyl ether (ETBE), T-amyl methyl ether (TAME) and methyl T-butyl ether (MTBE) in general accordance with EPA Method 8260B. The results of the analyses are presented in Table 2. The laboratory reports are included in Appendix B. A summary of all existing and previous groundwater analyses conducted for monitoring wells MW-1 through MW-9 is presented in Table 3.

ANALYTICAL RESULTS

During the fifth quarter of sampling and monitoring in 2004, TPH-gasoline, benzene, ethylbenzene, toluene, total xylene, and MTBE were detected at the subject property. TPH-diesel, TBA, DIPE, ETBE, and TAME were not detected at any of the nine monitoring wells. The following bullets present a range of contaminant concentrations detected. Table 2 also presents the analytical results.

- TPH-gasoline was non-detect at MW-4 and MW-9 and ranged from 24 µg/l at MW-1 to 62,900 µg/l at MW-2.
- Benzene was non-detect at MW-1, -3, -4, -8, and -9 but ranged from 1.10 µg/l at MW-7 to 1,480 µg/l at MW-2.
- Ethyl-Benzene was non-detect at MW-1, -4, and -9 but ranged from 4.13 µg/l at MW-8 to 926 µg/l at MW-2.
- Toluene was non-detect at MW-3, -4, and -7, but ranged from 1.24 µg/l at MW-1 to 4,450 µg/l at MW-2.
- Total xylene was non-detect at MW-1, -4, -8, and -9 but ranged from 34.57 µg/l at MW-7 to 3,620 µg/l at MW-2.
- MTBE was detected only at MW-1 at 85.6 mg/l and MW-5 at 34 mg/l.

DISCUSSION

A goal of the quarterly groundwater sampling and monitoring program at Hawley Auto Body is to collect sufficient groundwater data to establish a trend analysis. In reviewing the groundwater analytical results for this quarter compared to the past quarter, a general decrease in contaminant concentration was observed at several monitoring wells. A decrease in TPHg concentration was observed at all monitoring well. Benzene decreased at MW-2, -5, -6 and -7. Ethylbenzene decreased at MW-2, -3, -5, -6, -7, and -8. Toluene decreased at MW-2, -5 and -6 but was detected at MW-1, -8 and -9 with less 2.0 µg/l. Total xylene decreased at MW-2, -3, -5, -6, and -7 compared with the previous detected values. MTBE was detected at MW-1, and MW-5 and was decreased. Contamination is observed to be most concentrated at monitoring wells MW-2, -5 and -6 which are located at the middle of project site. Contaminant concentrations increase and decrease during different times of the year. There is insufficient data to establish a trend analysis. Additional sampling on a quarterly basis is necessary to establish a trend analysis. Table 3 provides a summary of groundwater sample analytical results for years 2000 through 2004.

RECOMMENDATIONS

Although there appears to be a general decrease in constituent concentrations during this quarterly monitoring event compared to previous quarterly monitoring events, it is premature to establish a trend analysis. Additional groundwater sampling is recommended. The next quarterly sampling event is proposed for Spring 2004.

TABLE 1
MONITORING WELLS AND GROUNDWATER ELEVATIONS
JANUARY 2004

Well Location	Top of Casing Elevation¹ (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-1	100.00	28.65	71.35
MW-2	97.50	26.22	71.28
MW-3	97.15	25.84	71.31
MW-4	94.08	22.86	71.22
MW-5	97.46	26.21	71.25
MW-6	97.02	25.77	71.25
MW-7	98.65	27.31	71.34
MW-8	97.25	25.92	71.33
MW-9	92.22	21.15	71.07

Notes:

¹ Based on an arbitrary datum of 100 feet at the top of monitoring well MW-1.

TABLE 2
QUARTERLY GROUNDWATER SAMPLE ANALYTICAL RESULTS, JANUARY 2004

(All concentrations in µg/l)

Sample Location	TPHg ^{(1) (9)}	TPHd ⁽¹⁾⁽⁹⁾	Benzene ^{(2) (9)}	Ethyl-Benzene ^{(2) (9)}	Toluene ^{(2) (9)}	Total Xylene ^{(2) (9)}	MTBE ⁽³⁾⁽⁹⁾	TBA ⁽⁴⁾⁽⁹⁾	DIPE ⁽⁵⁾⁽⁹⁾	ETBE ⁽⁶⁾⁽⁹⁾	TAME ⁽⁷⁾⁽⁹⁾
MW-1	24	nd	nd	nd	1.24	nd	85.6	nd	nd	nd	nd
MW-2	62,900	nd	1,480	926	4450	3,620	nd	nd	nd	nd	nd
MW-3	9,470	nd	nd	177	nd	382.5	nd	nd	nd	nd	nd
MW-4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
MW-5	5,070	nd	245	136	576	694	34	nd	nd	nd	nd
MW-6	28,000	nd	9.22	318	1,640	1,223	nd	nd	nd	nd	nd
MW-7	3,770	nd	1.10	29.8	nd	34.57	nd	nd	nd	nd	nd
MW-8	1,360	nd	nd	4.13	1.33	nd	nd	nd	nd	nd	nd
MW-9	nd	nd	nd	nd	1.91	nd	nd	nd	nd	nd	nd

Notes:

- ¹ TPH = Total petroleum hydrocarbons in general accordance with Modified EPA Method 8015B.
- ² Benzene, ethylbenzene, toluene and total xylene analyzed in general accordance with EPA Method 8260B.
- ³ MTBE = Methyl T-butyl Ether analyzed in general accordance with EPA Method 8260B.
- ⁴ TBA = Tert-Butyl Alcohol analyzed in general accordance with EPA Method 8260B.
- ⁵ DIPE = DI-Isopropyl Ether analyzed in general accordance with EPA Method 8260B.
- ⁶ ETBE = Ethyl Tert-Butyl Ether analyzed in general accordance with EPA Method 8260B.
- ⁷ TAME = Tert-amyl methyl Ether analyzed in general accordance with EPA Method 8260B.
- ⁸ nd = Not detected above the analytical method reporting limit.
- ⁹ All concentrations in micrograms per liter.

TABLE 3
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
YEARS 2000, 2001, 2002, 2003, AND 2004

(All concentrations in µg/l)

Sample Location	Sampling Date	TPHg ⁽¹⁾⁽⁵⁾	Benzene ⁽²⁾⁽⁵⁾	Ethylbenzene ⁽²⁾⁽⁵⁾	Toluene ⁽²⁾⁽⁵⁾	Total Xylene ⁽²⁾⁽⁵⁾	MTBE ⁽³⁾⁽⁵⁾
MW-1	02/25/00	nd ⁴	0.9	nd	nd	2.5	79.6
	02/05/01	430	nd	nd	nd	nd	364
	05/14/01	609	nd	nd	nd	nd	347
	08/20/01	31	nd	nd	nd	nd	409
	11/12/01	nd	nd	nd	nd	nd	458
	02/18/02	135	nd	nd	nd	nd	395
	12/30/02	22.0	nd	nd	nd	nd	99.1
	03/25/03	nd	nd	nd	nd	nd	88.6
	06/06/03	nd	nd	nd	nd	nd	80.2
	08/11/03	34	nd	nd	nd	nd	161
	01/8/04	24	nd	nd	1.24	nd	85.6
MW-2	02/25/00	83,200	5,930	1,940	13,800	8,890	833
	02/05/01	62,000	4,870	1,750	10,200	9,360	nd
	05/14/01	14,600	2,130	nd	3,600	4,410	nd
	08/21/01	53,100	2,450	942	4,760	4,620	nd
	11/13/01	94,500	3,110	1,250	7,500	5,160	nd
	02/19/02	73,000	3,490	1,310	8,150	6,550	nd
	12/31/02	12,000	1,280	640	3,370	2,446	nd
	03/26/03	46,000	2,060	969	5,270	4,240	nd
	06/09/03	59,100	2,280	1,350	6,290	5,280	nd
	08/12/03	65,800	2,690	1,640	7,990	6,710	118
	01/9/04	62,900	1,480	926	4,450	3,620	nd
MW-3	02/25/00	8,240	19	38	342	1,270	94
	02/05/01	7,000	nd	330	nd	742	nd
	05/14/01	106	nd	nd	nd	nd	nd
	08/21/01	12,500	nd	222	nd	561	nd
	11/12/01	2,430	nd	39.3	nd	37.9	nd
	02/19/02	9,200	nd	165	nd	340.5	nd
	12/31/02	4,900	nd	159	nd	346.8	nd
	03/26/03	2,130	nd	53.5	nd	64.2	nd
	06/09/03	1,060	nd	28.2	nd	31.4	nd
	08/12/03	15,300	nd	401	nd	856	nd
	01/9/04	9,470	nd	177	nd	382.5	nd
MW-4	02/25/00	nd	nd	nd	nd	nd	nd
	02/05/01	nd	nd	nd	nd	nd	nd
	05/14/01	nd	nd	nd	nd	nd	nd
	08/20/01	nd	nd	nd	nd	nd	nd
	11/12/01	nd	nd	nd	nd	nd	nd
	02/18/02	nd	nd	nd	nd	nd	nd
	12/30/02	nd	nd	nd	nd	nd	nd
	03/25/03	nd	nd	nd	nd	nd	nd
	06/06/03	nd	nd	nd	nd	nd	nd
	08/11/03	26	nd	nd	nd	nd	nd
	01/8/04	nd	nd	nd	nd	nd	nd
MW-5	02/05/01	13,100	1,620	421	1,650	2,300	nd
	05/14/01	726	19.9	nd	1.10	260.6	19.6
	08/21/01	9,280	522	168	593	763	16.1
	11/13/01	14,300	708	263	927	990	20.7
	02/19/02	5,400	232	78.4	314	394	nd
	12/31/02	2,400	206	102	292	399	nd
	03/26/03	5,200	120	127	424	547	nd
	06/09/03	10,800	443	270	901	1,248	nd
	08/12/03	19,600	395	221	673	934	43.4
	01/9/04	5,070	245	136	576	694	34

TABLE 3
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
YEARS 2000, 2001, 2002, 2003, AND 2004

(All concentrations in µg/l)

Sample Location	Sampling Date	TPHg ⁽¹⁾⁽⁵⁾	Benzene ⁽²⁾⁽⁵⁾	Ethylbenzene ⁽²⁾⁽⁵⁾	Toluene ⁽²⁾⁽⁵⁾	Total Xylene ⁽²⁾⁽⁵⁾	MTBE ⁽³⁾⁽⁵⁾
MW-6	02/05/01	28,900	990	868	4,080	4,050	Nd
	05/14/01	6,880	85.0	nd	nd	2,205	70
	08/21/01	41,300	1,420	845	4,290	2,760	124
	11/13/01	23,700	654	521	1,870	1,315	93.0
	02/19/02	24,000	642	464	1,430	1,355	97.2
	12/31/02	17,200	497	346	1,550	1,309	58.5
	03/26/03	8,300	272	246	1,060	871	Nd
	06/09/03	29,200	1,010	798	3,730	2,870	Nd
	08/12/03	82,100	2,820	1,420	9,260	6,060	158
	01/9/04	28,000	9.22	318	1,640	1,223	nd
MW-7	02/05/01	6,180	4.2	nd	nd	168	3.7
	05/14/01	1,090	2.4	nd	nd	20.3	nd
	08/21/01	17,800	3.9	121	2.0	83.8	nd
	11/12/01	11,600	1.3	38.2	nd	14.0	nd
	02/18/02	5,600	nd	18.6	1.0	9.3	nd
	12/31/02	4,100	2.02	30.7	nd	20.24	nd
	03/25/03	5,240	4.56	49.5	nd	32.66	nd
	06/09/03	7,300	2.10	61.9	nd	43.4	nd
	08/12/03	24,400	5.65	202	nd	241.6	nd
	01/8/04	3,770	1.10	29.8	nd	34.57	nd
MW-8	02/05/01	1,050	nd	nd	nd	19.7	2.3
	05/14/01	97.0	nd	nd	nd	nd	nd
	08/20/01	2,960	nd	11.7	nd	2.3	nd
	11/12/01	5,830	nd	36.3	nd	4.3	nd
	02/18/02	1,890	nd	7.1	1.1	1.1	nd
	12/30/02	1,300	nd	2.18	nd	nd	nd
	03/25/03	1,360	nd	2.53	nd	nd	nd
	06/09/03	2,640	nd	7.52	nd	nd	nd
	08/11/03	6,520	nd	15.1	nd	nd	nd
	01/8/04	1,360	nd	4.13	1.33	nd	nd
MW-9	03/12/01	nd	nd	nd	1.1	nd	nd
	05/14/01	nd	nd	nd	nd	3.4	nd
	08/20/01	nd	nd	nd	nd	nd	nd
	11/12/01	nd	nd	nd	nd	nd	nd
	02/18/02	nd	nd	nd	nd	nd	nd
	12/30/02	nd	nd	nd	nd	nd	nd
	03/25/03	nd	nd	nd	nd	nd	nd
	06/06/03	nd	nd	nd	nd	nd	nd
	08/11/03	nd	nd	nd	nd	nd	nd
	01/8/04	nd	nd	nd	1.91	nd	nd

Notes:

¹ TPH = Total petroleum hydrocarbon (in gasoline range) in general accordance with Modified EPA Method 8015.

² Benzene, toluene, ethylbenzene and total xylene analyzed in general accordance with EPA Method 8260B.

³ MTBE = Methyl tert- butyl ether analyzed in general accordance with EPA Method 8260B

⁴ nd = Not detected above the analytical method reporting limit.

⁵ All concentrations in micrograms per liter.

ATTACHMENT A

GROUNDWATER SAMPLING DATA SHEETS

JANUARY 2004

ATTACHMENT B

LABORATORY ANALYTICAL REPORTS

January 2004
